

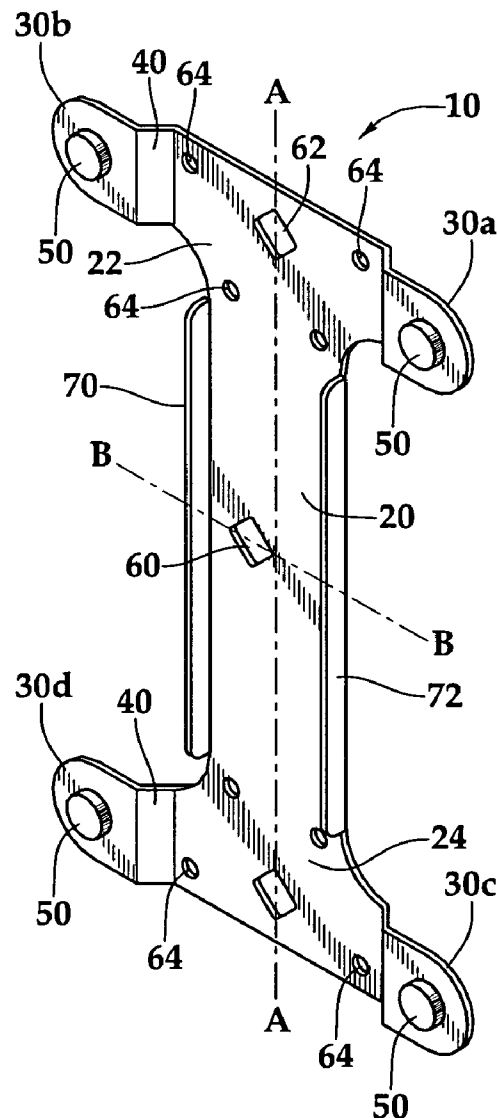


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(19) **United States**(12) **Patent Application Publication**
REINOLD et al.(10) **Pub. No.: US 2008/0115397 A1**(43) **Pub. Date: May 22, 2008**(54) **IMAGE DISPLAY STRUCTURE AND
COMPONENTS THEREOF****Related U.S. Application Data**(60) Provisional application No. 60/860,742, filed on Nov.
22, 2006.(76) Inventors: **Juergen REINOLD**, Palatine, IL
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Joseph, MI (US)**Publication Classification**(51) **Int. Cl.**
A47G 1/17 (2006.01)
A47G 1/06 (2006.01)(52) **U.S. Cl.** **40/711; 40/700; 40/745**(57) **ABSTRACT**

An apparatus for the display of images comprises one or more graphical images, an image support and a display structure. The rigid image support may be releasably attached to the rigid display structure, which may be achieved with one or more magnets. The display structure contains features for display on a mounting surface, e.g., a wall or a desktop.

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CHICAGO, IL 60604-3787(21) Appl. No.: **11/936,272**(22) Filed: **Nov. 7, 2007**

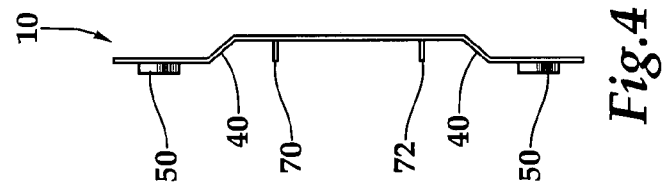


Fig. 4

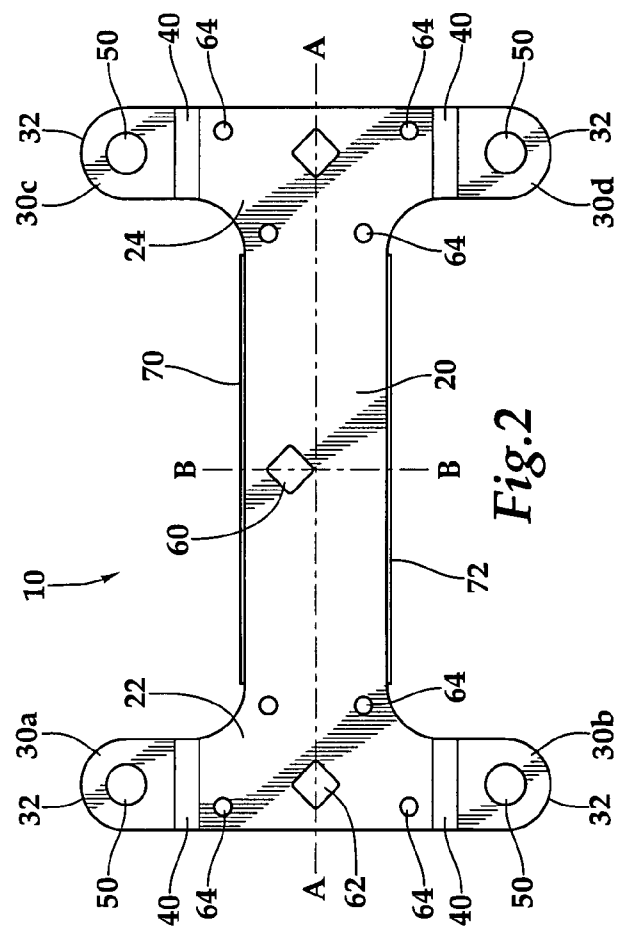


Fig. 2

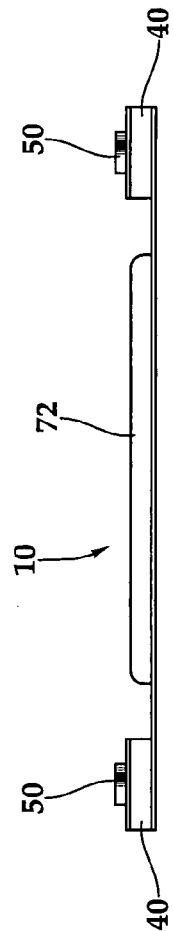


Fig. 3

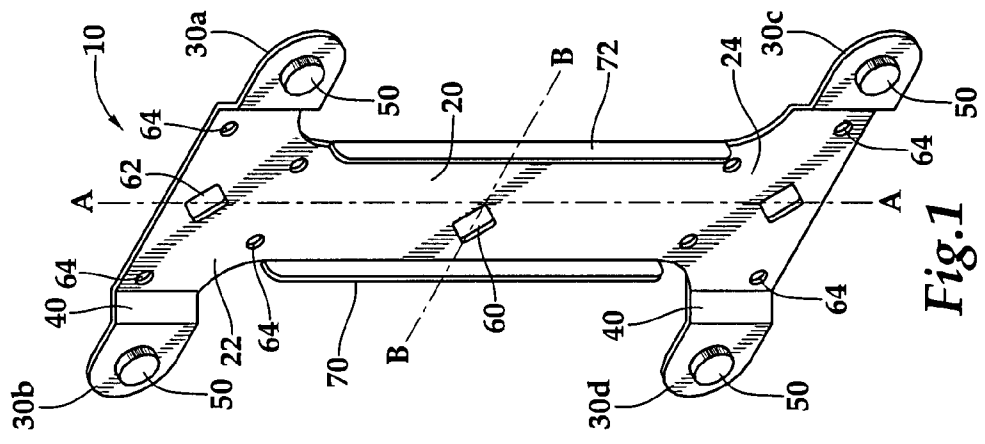
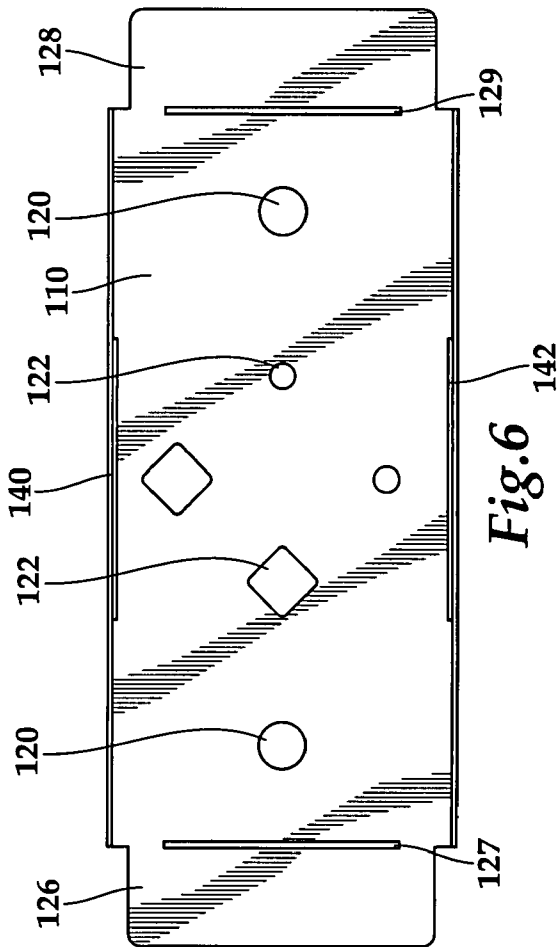
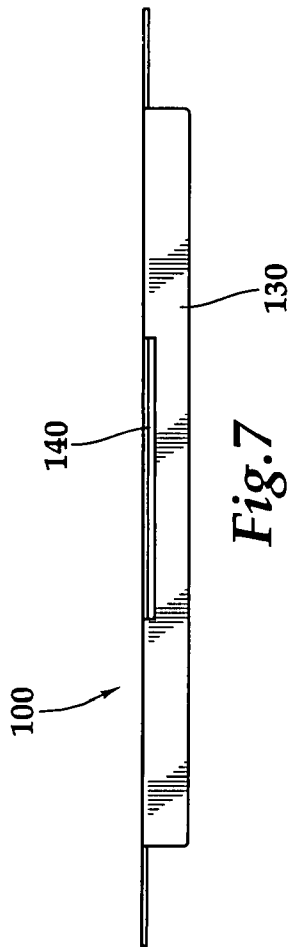
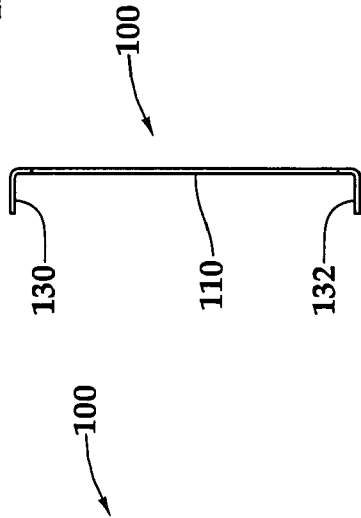
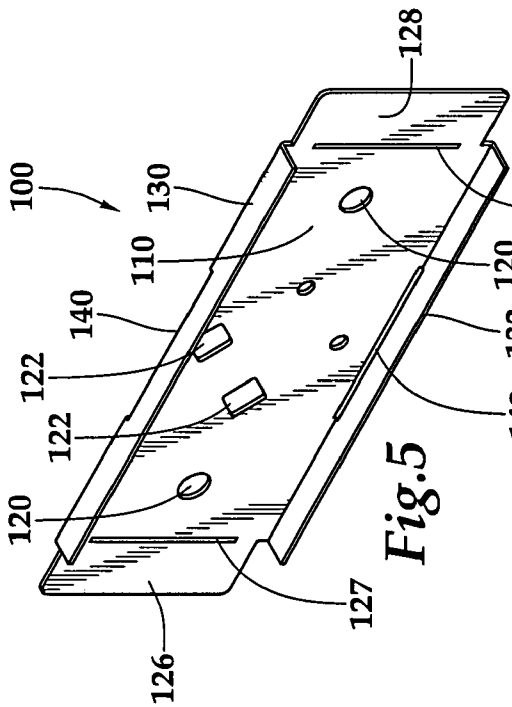


Fig. 1



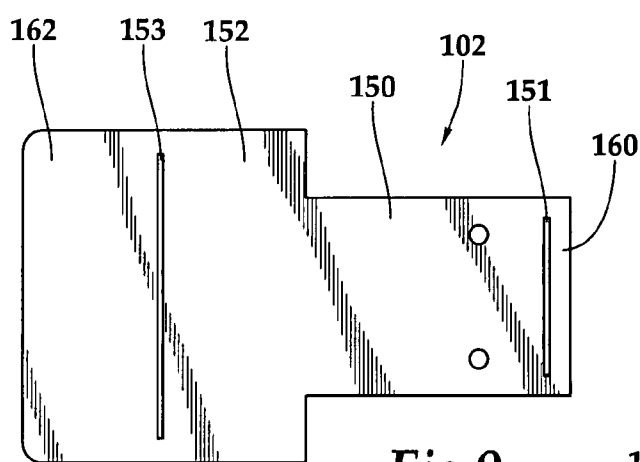


Fig. 9

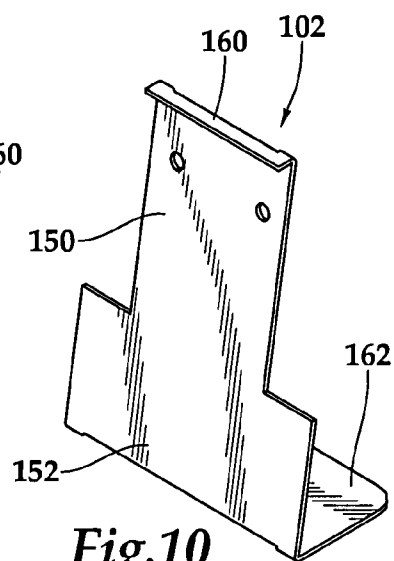


Fig. 10

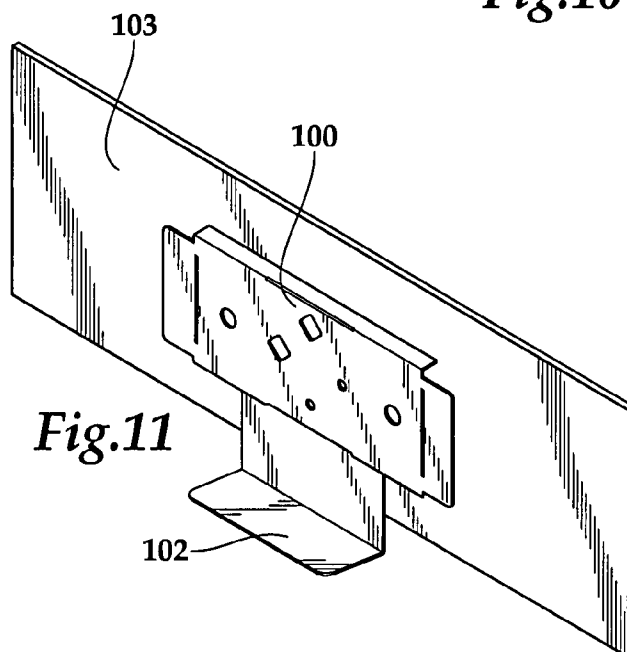


Fig. 11

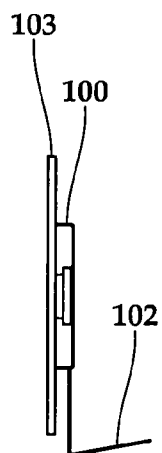


Fig. 13

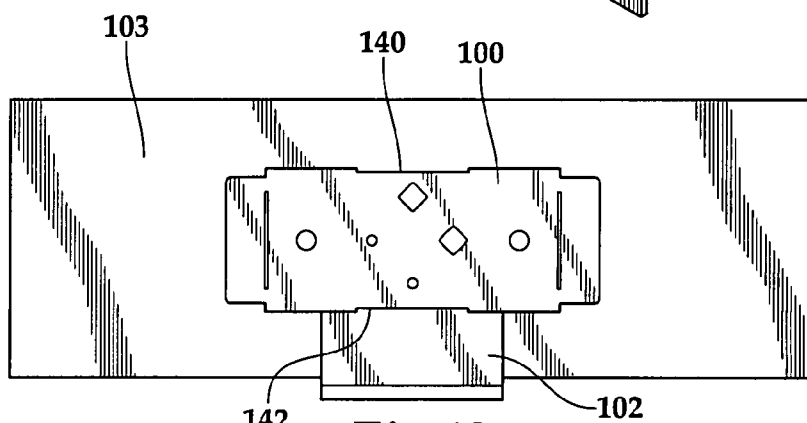
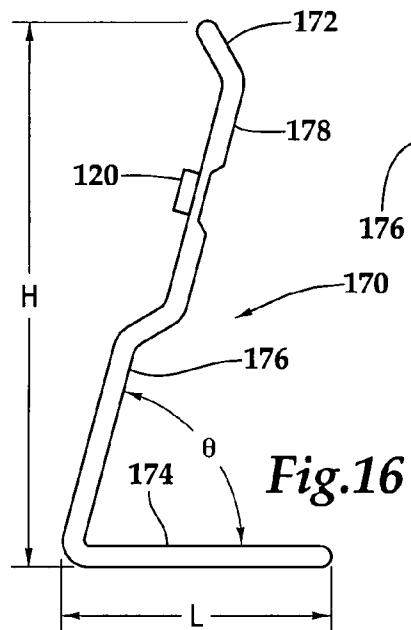
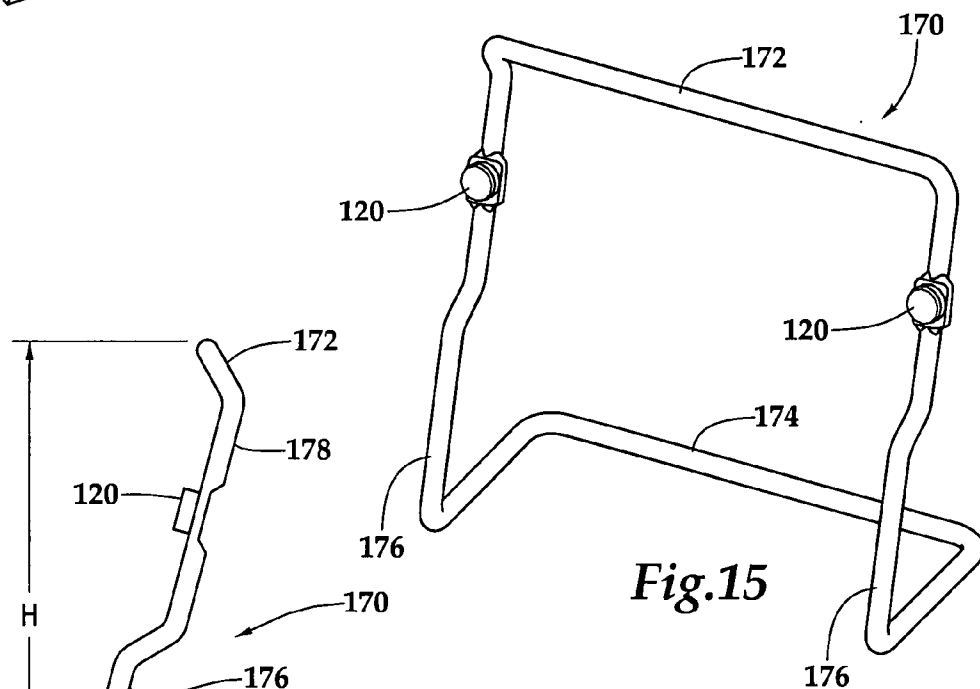
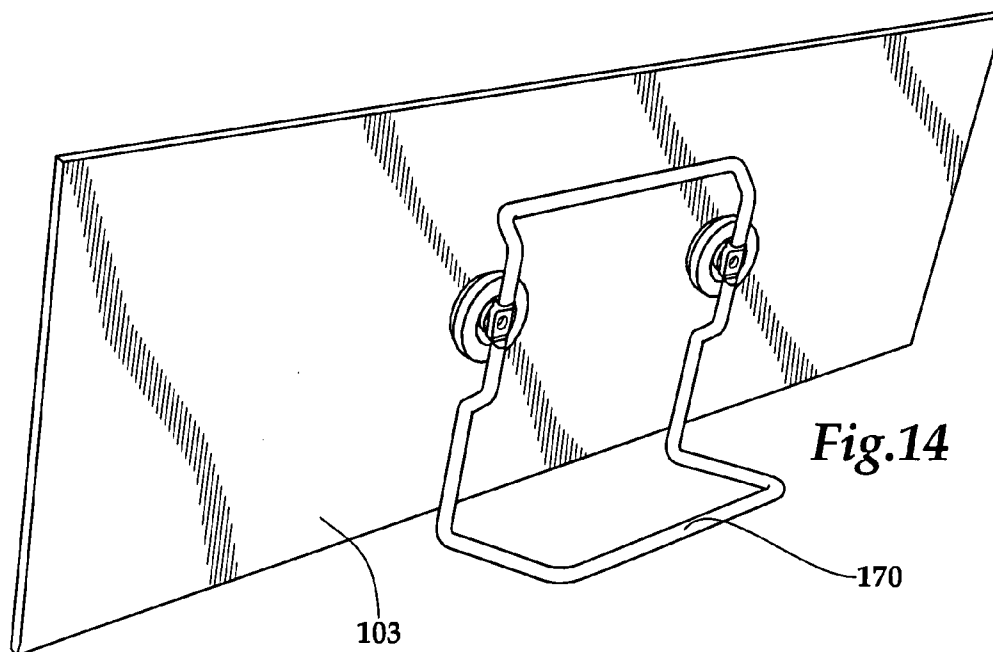
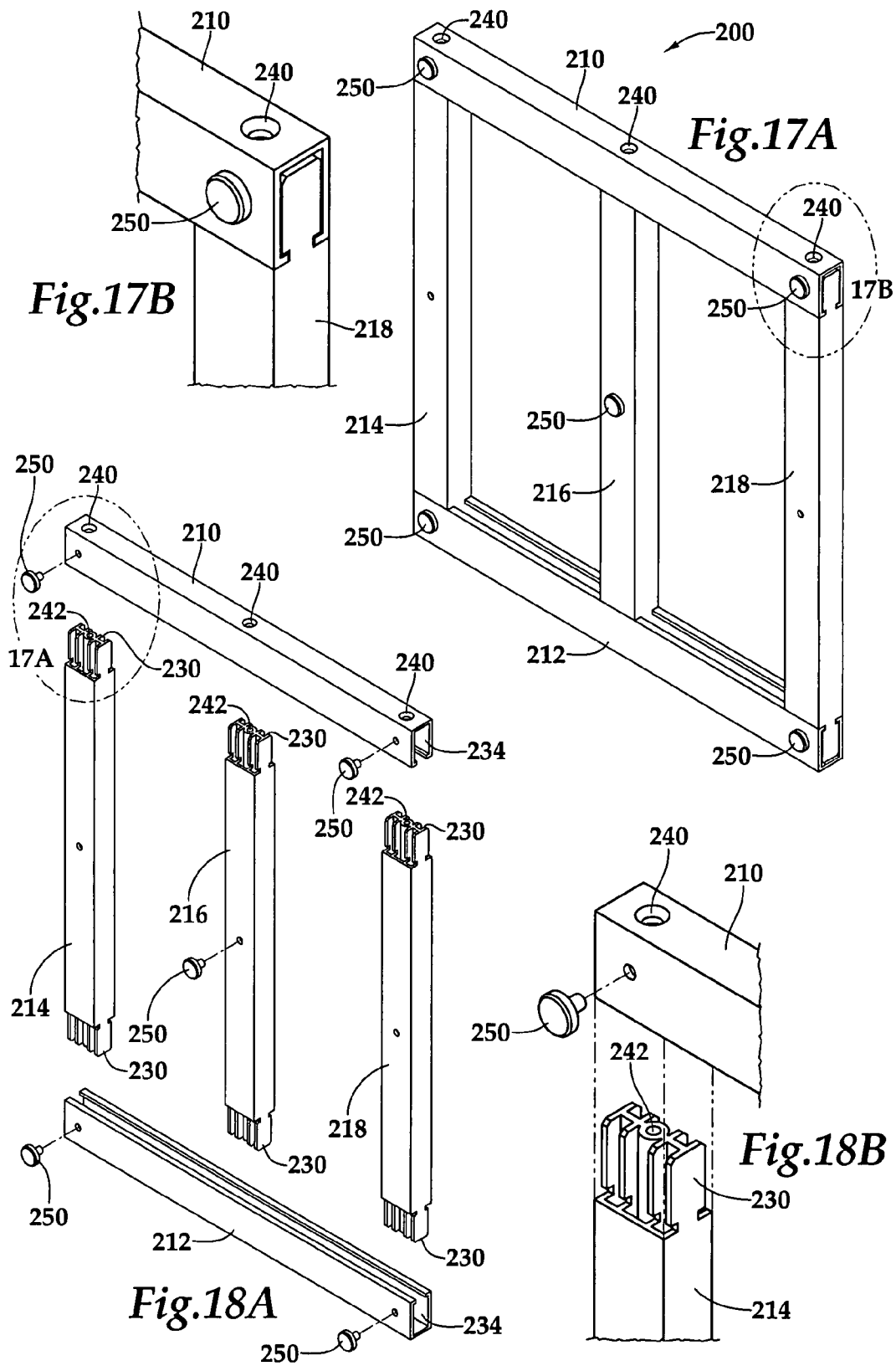


Fig. 12





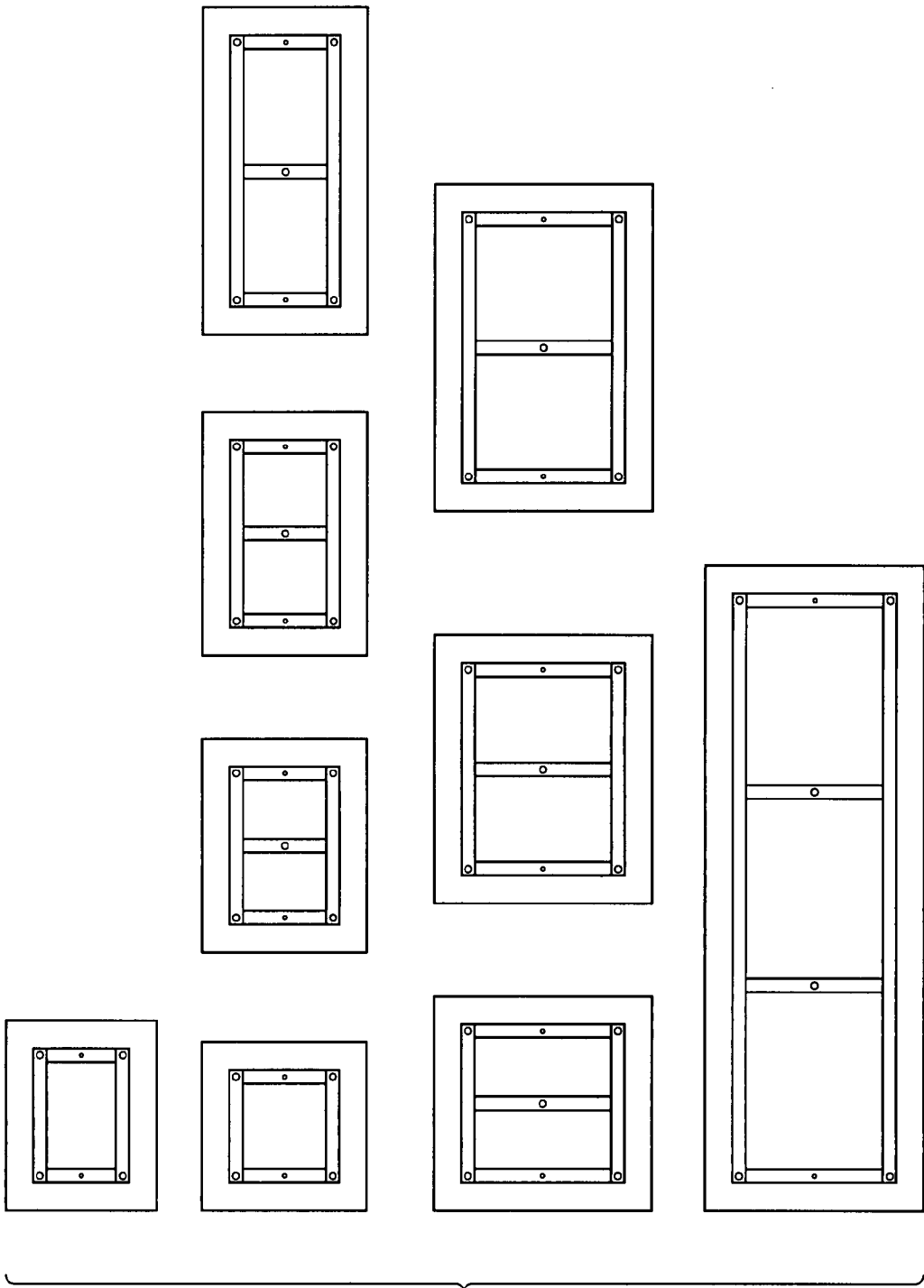


Fig.19

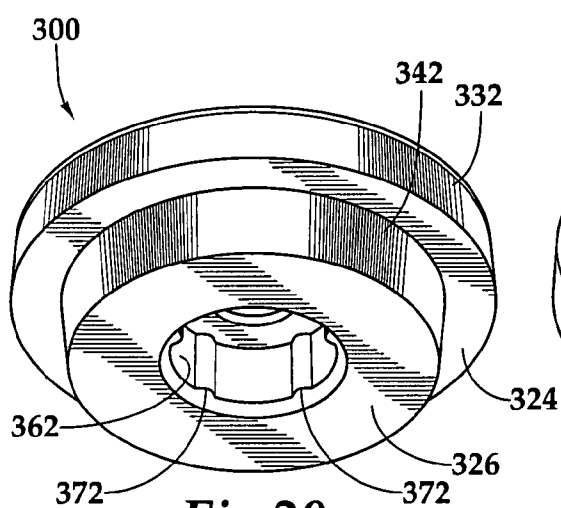


Fig.20

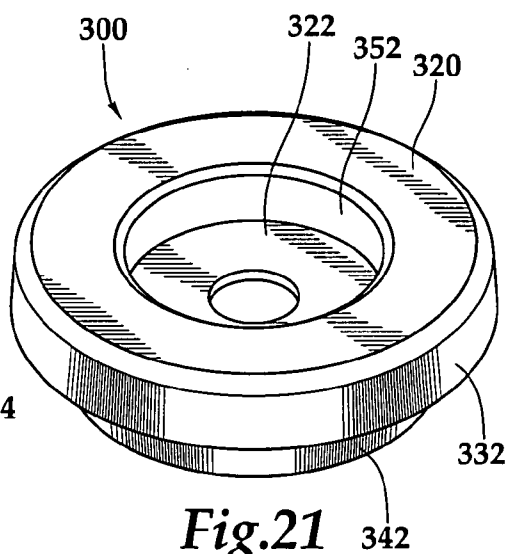


Fig.21

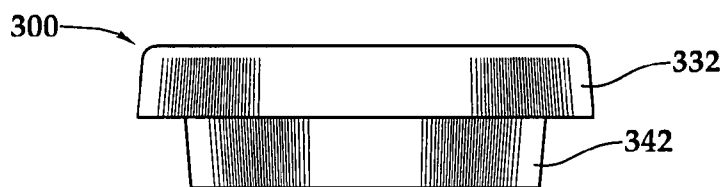


Fig.23

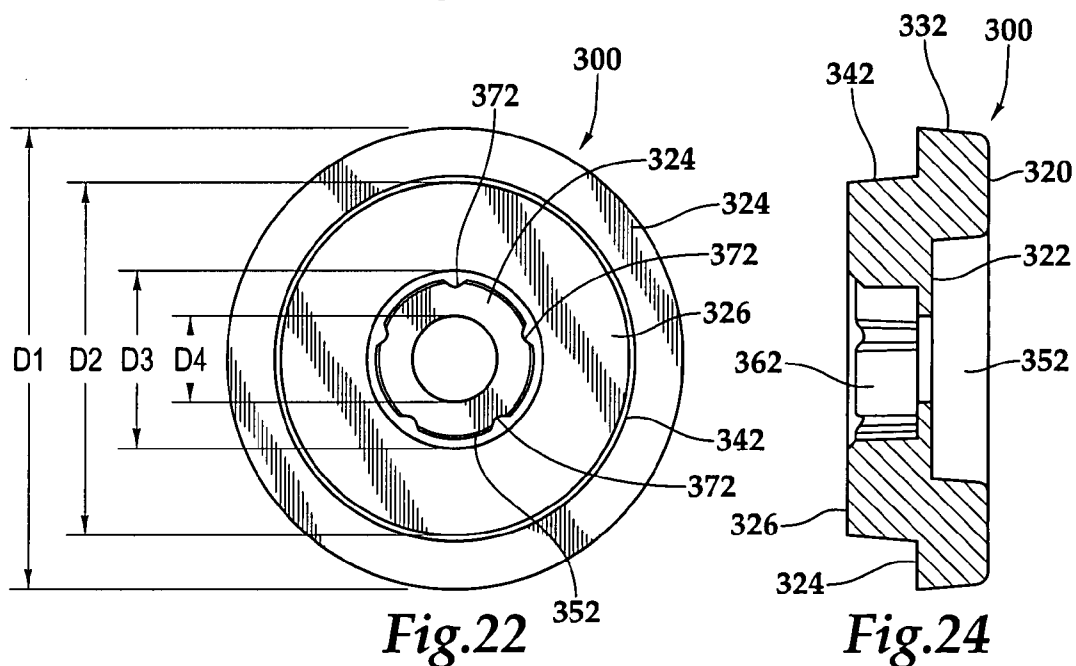
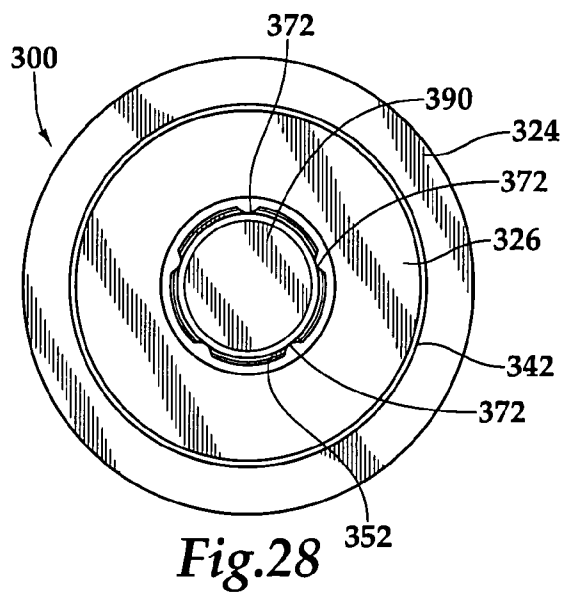
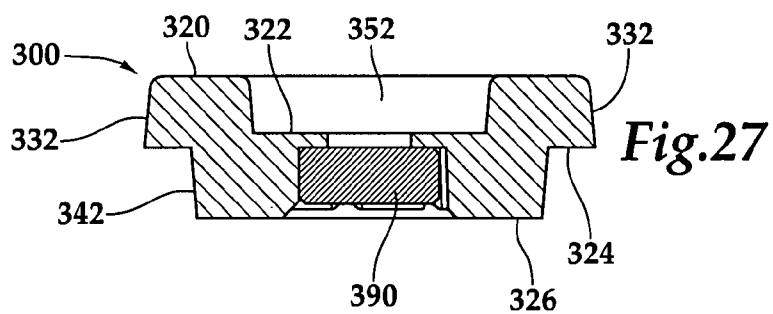
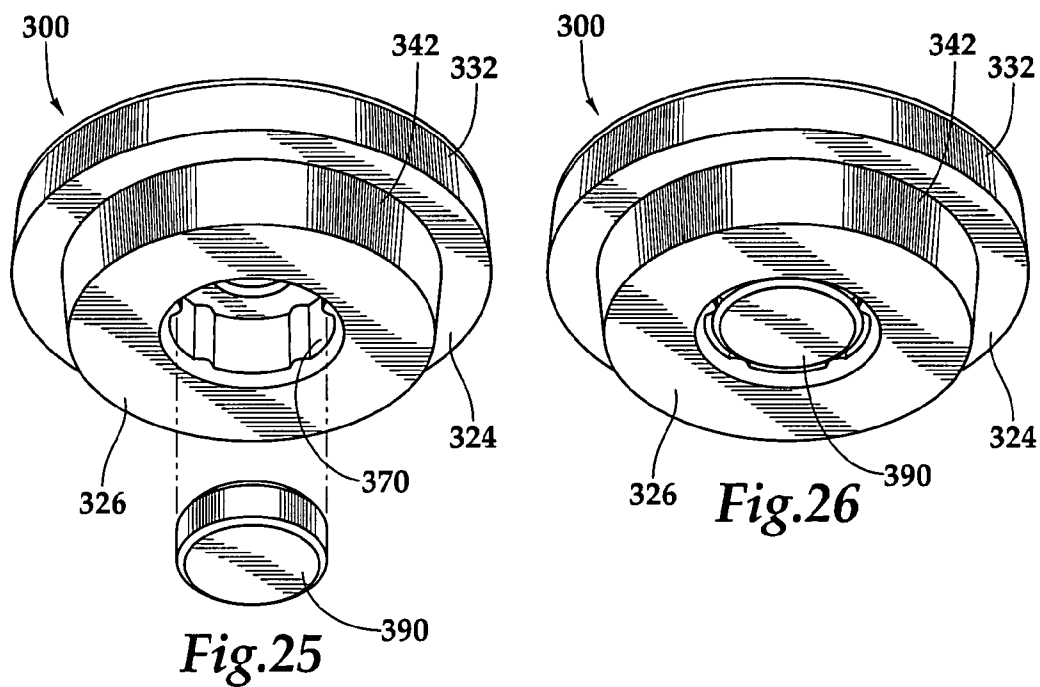


Fig.22

Fig.24



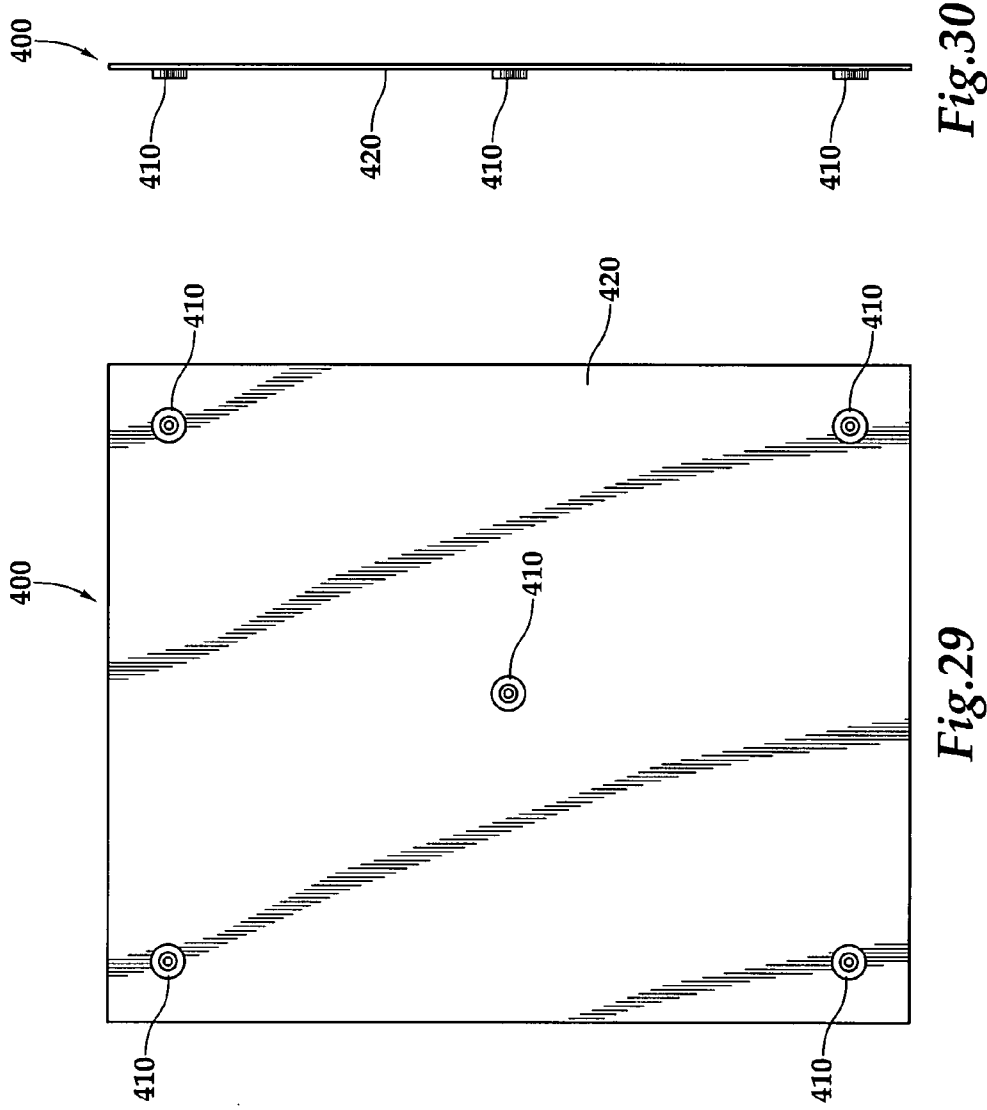
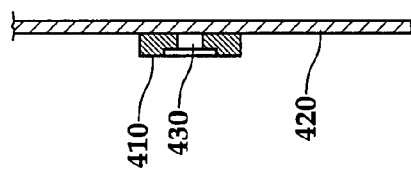


Fig.31



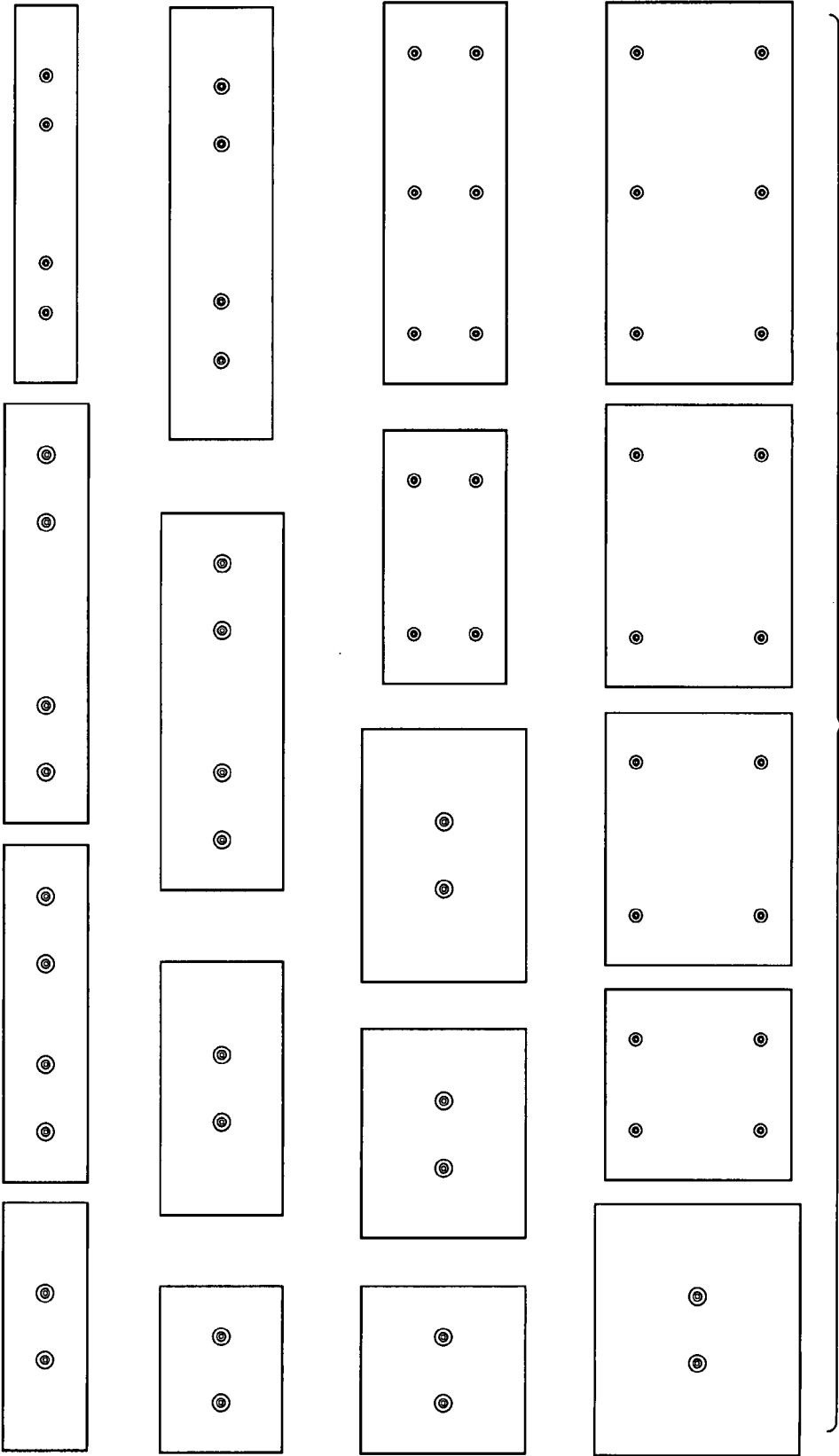


IMAGE DISPLAY STRUCTURE AND COMPONENTS THEREOF

[0001] The present application claims benefit of priority of U.S. Provisional Application No. 60/860,742, filed on Nov. 22, 2006.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention is directed to a novel apparatus for mounting images for display.

[0004] 2. Description of the Related Art

[0005] With the transition of digital photography from niche to mainstream use, amateur photographers are able to produce high-quality images in increasingly large formats. A significant segment of photographers want to display more of their photographs in larger formats, in their homes and offices. Today's dominant display method, framing with glass, is seriously deficient: it degrades the image and is expensive, especially in larger sizes. The current alternatives—framing dry mounted prints without glass or printing digital images on canvas and stretching them on a frame—are also expensive and not scalable to large volumes.

[0006] As the transition to digital photography approaches completion, consumers are developing an increasing appreciation for the high quality of images that digital cameras, combined with easy-to-use photo editing software, can deliver. They want to display more photographs, and in larger formats, in their homes and offices. They will also want to easily and cost-effectively change the photographs they display.

[0007] The dominant method of displaying photographs today is to mat the image and use a frame with glass. Glazing, e.g., covering an image with glass, acrylic or other transparent materials, is used to protect the image (which has traditionally been relatively expensive and/or troublesome to replace if damaged), and to provide a rigid surface to keep the print flat. Today's framing techniques are rooted in approaches developed a century or more ago. Prints are now cheaper than glass and can be protected against harm from UV rays, but we are still using traditional methods that have significant negative effects. Glass degrades the image viewing experience because of reflections. If non-glare glass is used, reflections are diminished, but so are contrast and color saturation. This degradation becomes increasingly important as the appetite for and ability to produce high-quality photographic images increase.

[0008] The primary current alternative to the glass framing approach is to dry mount prints and frame or display them without glass. Dry mounting involves the use of a press and heat to adhere the print to a rigid material. Once the adhesive has cured, the mounted print is assembled into a frame. This method is labor-intensive, slow, and expensive. Its use is therefore limited.

[0009] The ultimate approach to addressing these emerging needs is the use of low-cost, very high-quality electronic displays. However, it may be years before such displays are available with the quality, form factors and battery life that would enable them to replace traditional frames displayed on walls, desks or shelves.

BRIEF SUMMARY OF THE INVENTION

[0010] A display structure for displaying an image support is provided. The display structure comprises a generally planar body, at least one generally planar mounting surface, wherein the mounting surface is spaced generally parallel to the body, creating an offset between the body and the mounting surface. The display structure further comprises at least one arm connecting the mounting surface to the body, and at least one connector attached to said mounting surface.

[0011] A display assembly is provided. The display assembly comprises a display structure, wherein the display structure comprises: a generally planar body having a mounting surface; two generally planar sides, the sides being generally parallel to one another and being attached to the body, the sides being generally perpendicular to the body; two slots between the body and the sides, and at least one connector attached to the mounting surface. The display assembly further comprises a generally planar stand, wherein the stand comprises: a first section having a first slot and a first bendable end, wherein the first bendable end is bendable along the first slot, a second section having a second slot and a second bendable end, where the second bendable end is bendable along the second slot, wherein the first section of the stand is inserted into the slots of the display structure. Alternatively, a display assembly may comprise of a stand with a base having at least one connector connecting directly to an image support.

[0012] A display structure comprising at least four members, wherein a first and second member are spaced generally parallel to one another, wherein a third and fourth member are spaced generally parallel to one another, wherein the first and second members are generally perpendicular to the third and fourth members, and wherein the third and fourth members have ends that are connectable to the first and second members. The members combine to form a mounting surface, and there is at least one connector attached to the mounting surface.

[0013] A spacer comprising a first surface, a second surface, a third surface and a fourth surface, wherein the surfaces are generally planar and are spaced generally parallel to one another, wherein said first and second surfaces are forward facing surfaces and said third and fourth surfaces are rearward facing surfaces, and wherein the surfaces are generally aligned along a central axis. The spacer further comprises a first outer face between the first surface and the third surface, a second outer face between the third surface and the fourth surface, a first inner face between the first surface and the second surface, and a second inner face between the third surface and the fourth surface. The first outer face has a perimeter that is greater than the perimeter of the second outer face. The first inner face has a perimeter that is less than the perimeter of the first outer face and less than the perimeter of the second outer face. The second inner face has a perimeter that is less than the perimeter of the first inner face, less than the perimeter of the first outer face and less than the perimeter of the second outer face.

[0014] These and other features and advantages are evident from the following description of the present invention, with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL
VIEWS OF THE DRAWINGS

- [0015] FIG. 1 is a plan view of a display structure.
- [0016] FIG. 2 is a front view of the display structure of FIG. 1.
- [0017] FIG. 3 is an end view of the display structure of FIG. 1.
- [0018] FIG. 4 is a side view of the display structure of FIG. 1.
- [0019] FIG. 5 is a plan view of another embodiment of a display structure.
- [0020] FIG. 6 is a front view of the display structure of FIG. 5.
- [0021] FIG. 7 is a top view of the display structure of FIG. 5.
- [0022] FIG. 8 is a side view of the display structure of FIG. 5.
- [0023] FIG. 9 is a front view of a stand.
- [0024] FIG. 10 is a plan view of the stand of FIG. 9 after the bendable ends have been bent.
- [0025] FIG. 11 is a plan view of a display assembly comprised of the display structure of FIG. 5, the stand of FIG. 9, and an image support.
- [0026] FIG. 12 is a rear view of the display assembly of FIG. 11.
- [0027] FIG. 13 is a side view of the display assembly of FIG. 11.
- [0028] FIG. 14 is a plan view of another display assembly.
- [0029] FIG. 15 is a plan view of the stand in FIG. 14.
- [0030] FIG. 16 is a side view of the stand in FIG. 14.
- [0031] FIG. 17A is a plan view another embodiment of a display structure.
- [0032] FIG. 17B is a detail view in FIG. 17A.
- [0033] FIG. 18A is an exploded plan view of the display structure of FIG. 17A.
- [0034] FIG. 18B is a detail view in FIG. 18A.
- [0035] FIG. 19 shows multiple modular display structures.
- [0036] FIG. 20 is a plan view of a spacer.
- [0037] FIG. 21 is a different plan view of the spacer of FIG. 20.
- [0038] FIG. 22 is a rear view of the spacer of FIG. 20.
- [0039] FIG. 23 is a side view of the spacer of FIG. 20.
- [0040] FIG. 24 is a cross-sectional view of the spacer of FIG. 20.
- [0041] FIG. 25 is a plan view of the spacer of FIG. 20 and a magnet.
- [0042] FIG. 26 is a plan view of the spacer of FIG. 20 housing a magnet.
- [0043] FIG. 27 is a cross-sectional view of the spacer of FIG. 20 housing a magnet.
- [0044] FIG. 28 is a rear view of the spacer of FIG. 20 housing a magnet.
- [0045] FIG. 29 is a rear view of an image support.
- [0046] FIG. 30 is a side view of the image support of FIG. 29.
- [0047] FIG. 31 is a side view of a spacer affixed to an image support.
- [0048] FIG. 32 shows multiple image supports.

DETAILED DESCRIPTION OF THE INVENTION

[0049] A new concept for a display structure for displaying graphic images without a picture frame or the traditional glass cover, i.e. a frameless, coverless display for graphic images, is

shown. The display structure may support an image supported by an image support, e.g., wood, cardboard, plastic, acrylic, metal, which may be mounted upon the display structure. Most of the description herein describes a single image. In all cases, multiple images could be mounted instead of a single image. Similarly in the embodiments shown and described the images are parallel to a wall or mounting surface; however, the image could be at any angle with relationship to mounting surface or be non-planar, e.g. curved or irregular.

[0050] In the embodiment of FIGS. 1-4, display structure 10 has a body that is generally H-shaped, and it is preferred that display structure 10 is generally symmetrical along a first axis A and a second axis B. Display structure 10 has a middle section 20 and two end sections 22 and 24. Middle section 20 is generally planar, having a forward face and a rear face opposite forward face. Though the shape of middle section 20 may vary, middle section 20 is preferably rectangular in shape. The length, width and thickness of middle section 20 may vary as desired.

[0051] End sections 22, 24 each have two generally planar mounting surfaces 30a, 30b, 30c, 30d. Mounting surfaces 30a and 30b are opposite each other and are generally symmetrical along first axis A of rigid display structure 10. Similarly, mounting surfaces 30c and 30d are opposite each other and are generally symmetrical along first axis A.

[0052] Mounting surfaces 30a and 30c are opposite each other and are generally symmetrical along second axis B of rigid display structure 10. Similarly, mounting surfaces 30b and 30d are opposite each other and are generally symmetrical along second axis B.

[0053] Mounting surfaces 30a, 30b, 30c, 30d are preferably all generally in the same plane. It is preferred that mounting surfaces 30a, 30b, 30c, 30d have rounded edges 32. The size, shape, number and positioning of mounting surfaces 30a, 30b, 30c, 30d, may vary.

[0054] End sections 22, 24 include bends 40 so that mounting surfaces 30a, 30b, 30c, 30d are offset from middle section 20. Mounting surfaces 30a, 30b, 30c, 30d are preferably located in a plane that is generally parallel to middle section 20. The distance of the offset may vary if desired, but preferably it is between about 1/8 and about 1/2 inches, and more preferably is about 1/3 inches.

[0055] The offset may create a desired "float" effect when an image support is attached to display structure 100 when mounted on a wall, i.e., an image support mounted on display structure 100 may have the aesthetically pleasing appearance that it is detached from the wall.

[0056] Mounting surfaces 30a, 30b, 30c, 30d include a connector 50 so that an image support may be attached to display structure 10. Preferably connectors 50 are releasable so that an image support may be easily attached to and removed from display structure 10. Some examples of a releasable connector include magnetic attachment but could also include any other fastening technique such as hook and loop fabric (Velcro™), snap fits, suction cups, or pins with detent mechanisms. Connectors 50 may be fixedly attached to mounting surfaces 30a, 30b, 30c, 30d using any suitable means.

[0057] The number and positioning of connectors 10 may vary. For example, for a larger image support, it may be desirable to have a greater number of connectors 10 for support. It may also be desirable to have connectors positioned on

middle section 20 because such positioning may provide additional support and thus may prevent warping or distortion of an image support.

[0058] In the embodiment shown in FIGS. 1-4, connectors 50 are magnets. Though the positioning of connectors 50 may vary, it is preferred that connectors 50 are generally centered on mounting surfaces 30a, 30b, 30c, 30d. The use of magnets as connectors 50 may provide for natural alignment of an image support with display structure 10. Also, magnets may allow for easy attachment and removal of an image support upon display structure 10.

[0059] As shown in FIGS. 1 and 2, display structure 10 has an opening 60 to facilitate mounting display structure 10 to a surface, e.g., a wall, using a fastener, e.g., a nail, screw or pin. While the size, shape and location of opening 60 may vary, opening 60 is preferably shaped like a diamond and is preferably generally positioned along second axis B. Such a shape and positioning, in combination with the generally symmetrical shape of display structure 10, may allow for display structure to be mounted to a wall and to be leveled naturally by gravity, thus eliminating the need for a leveling tool.

[0060] Similarly, end sections 22, 24 also include openings 62. While the size, shape and location of openings 62 may vary, openings 62 are preferably shaped like a diamond and are preferably located along first axis A. Openings 62 may allow for display structure 10 to be mounted to a wall. Additionally, display structure 10 has holes 64, which may also be used in combination with a fastener to mount display structure 10 to a surface. The positioning and dimensions of holes 64 may vary as desired.

[0061] After display structure 10 has been leveled and positioned as desired using one of openings 60, 62, additional fasteners, e.g., nails, screws, pins, may be used in combination with one or more remaining openings which may further stabilize and secure display structure 10 to the surface.

[0062] As shown in FIG. 1, edges 70 and 72 are bent, which may increase the stability of display structure 10 and prevent warping when an image support is mounted to display structure 10.

[0063] Display structure 10 may be comprised of any material. Light weight materials such as acrylic or other plastics may be desirable, or metals such as aluminum. Any material resulting in a visually pleasing shape that is readily manufactured is a desirable material.

[0064] The embodiment shown has a preferred length between end 22 and 24 of between about 6 inches and about 10 inches, and more preferably of about 8 inches. The width as measured between mounting surface 30a and mounting surface 30b is preferably between about 4 inches and about 6 inches, and more preferably about 5 inches. The width of middle section 20 is between about 1½ inches and about 3½ inches, and more preferably about 2½ inches. Mounting surfaces 30a, 30b, 30c, 30d are preferably offset from middle section 10 by between about ¼ inch and about ½ inch, and more preferably by about ⅓ inch.

[0065] The dimensions and proportions of display structure 10 may vary as desired to accommodate any size image support.

[0066] In the embodiment of FIGS. 5-11, the assembly shown comprises a display structure 100 and a stand 102. Display structure 100 and stand 102 may be used in combination with one another to display an image on a generally horizontal surface, e.g., a desktop.

[0067] The size and shape of display structure 100 as shown in FIGS. 5-8 may vary, but preferably display structure 100 is generally planar and rectangular in shape. Display structure 100 has a mounting face 110 to which an image support may be attached. Preferably, display structure 100 has a length of between about 6 inches and about 8 inches, and more preferably about 7 inches. Preferably, display structure has a width of between about ½ inches and about 4 inches, and more preferably about 2¼ inches.

[0068] Mounting face 110 has two connectors 120 for attaching an image support. Connectors 120 are preferably releasable so that an image support may be easily attached and removed. Some examples of a releasable connector include magnetic attachment but could also include any other fastening technique such as hook and loop fabric (Velcro™), snap fits, suction cups, or pins with detent mechanisms. Connectors 120 may be fixedly attached to mounting face 110 using any suitable means. As shown in FIGS. 5 and 6, connectors 120 are magnets. The number and positioning of connectors 120 may vary as desired.

[0069] Similar to the H-shaped display structure of FIGS. 1-4, display structure 100 of FIGS. 5-8 has four openings 122 to facilitate mounting design structure 100 on a generally vertical surface, e.g., a wall. Two of openings 122 are diamond shape, which may allow display structure 100 to naturally level itself under the force of gravity. Additional fasteners, e.g., nails, screws, bolts, may be used in combination with openings 122 to further secure and stabilize display structure 100 on the wall. The shape, dimensions and positioning of openings 122 may vary as desired.

[0070] As shown in FIGS. 5 and 6, display structure 100 has two bendable ends 126 and 128. Bendable end 126 has slot 127 and bendable end 128 has slot 129, which may facilitate the bending of bendable ends 126, 128. Though their dimensions may vary, preferably slots 127, 129 have a length between about 1.5 inches and 2 inches, and more preferably about 1¾ inches.

[0071] Bendable ends 126, 128 may be bent along slots 127, 129 respectively. When bendable ends 126, 128 are bent away from mounting face 110, bendable ends 126, 128 may create spacing between mounting face 110 and the surface it is mounted on, e.g., a wall. Such spacing may create a desired "float" effect, i.e., an image support mounted on display structure 110 may have the aesthetically pleasing appearance that it is detached from the wall.

[0072] Display structure 100 has two sides 130 and 132 which are generally parallel to one another and generally perpendicular to mounting face 110. Though their dimensions may vary, sides 130, 132 preferably have a length between about 5 inches and 6 inches, and more preferably about 5.5 inches. Sides 130, 132 preferably have a height between about ⅓ inches and ⅔ inches, and more preferably about ⅓ inches.

[0073] There is a slot 140 at the intersection of side 130 and mounting face 110, and there is a similar slot 142 at the intersection of side 132 and mounting face 110. Slots 140 and 142 may be of varying dimensions. Preferably, slots 140, 142 have a length between about 1 inch and about 3 inches, and more preferably about 2 inches.

[0074] As shown in FIG. 9, stand 102 is generally planar. The size and shape of stand 102 may vary, but preferably stand 102 is T-shaped as shown in FIG. 9. Stand 102 has a first section 150 and a second section 152. Preferably, first section 150 has a width of between about 1 inch and about 3 inches,

and more preferably about 2 inches. Preferably, second section 152 has a length of between about 2 inches and about 4 inches, and more preferably about 3 inches. Preferably, second section 152 has a width of between about 2 inches and about 4 inches, and more preferably about 3 inches. While the widths of first section 150 and second section 152 may vary, the width of first section 150 should be less than the width of second section 152.

[0075] First section 150 has a slot 151 and first bendable end 160. Preferably, first section 150 has a length of between about 2 inches and about 4 inches, and more preferably about 3 inches. Second section 152 has a slot 153 and second bendable end 162. Slots 151 and 153 may facilitate bending of bendable ends 160, 162. FIG. 10 shows stand 102 after bendable ends 160, 162 have been bent.

[0076] First section 150 should be of sufficient length and width so that first section 150 may be inserted into slots 140 and 142 of rigid display structure 100, as shown in FIGS. 11-13. Preferably, the length of first section 150 is between about 2 inches and about 4 inches, and more preferably about 3 inches. As shown in FIGS. 10 and 11, first bendable end 160 of first section 150 may be bent along slot 151 so that stand 102 may be secured within slots 140 and 142 of display structure 100.

[0077] Second section 152 may be bent along slot 153 so as to support display structure 100 and stand 102 as assembled when placed on a generally horizontal surface, e.g., a desktop, as shown in FIGS. 11 and 12. Though the angle may vary, an image support attached to display structure 100 and stand 102 as assembled is preferably positioned at an angle between about 70° and about 90°, and more preferably at about 80° to horizon.

[0078] FIGS. 11-13 show a display assembly comprising display structure 100, stand 102, and an image support 103. The dimensions of the assembly may vary to accommodate image supports of varying sizes.

[0079] Display structure 100 and stand 102 may be generally flat when it is shipped to consumers, which may make for easier and less expensive shipment. After receiving the disassembled and unbent display structure 100 and stand 102, the consumer may then assemble display structure 100 and stand 102 and bend stand 102 as discussed above for displaying an image support.

[0080] The dimensions and proportions of display structure 100 and stand 102 may vary as desired to accommodate any size image support.

[0081] Additionally, a stand may attach to an image support without the aid of a display structure. The stand of this type may vary in size and shape and may have connectors to attach directly to an image support. The stand may be designed to sit on a horizontal surface, such as a desktop.

[0082] FIGS. 14-16 show a preferred embodiment of a stand 170 that may attach directly to an image support 103. Stand 170 has a base 174, which is generally horizontal and attached to two generally vertical members 176. Each generally vertical member 176 has a lower and an upper section, the upper section of which has a recessed surface 178 with a connector 120. Connector 120 is preferably a magnet. Generally vertical members 176 may be stabilized with a crossbar 172 attaching to each of the upper sections.

[0083] As shown in FIG. 16, generally vertical member 176 may be at an angle toward base 174, forming an acute angle θ at their intersection. Angle θ may be between about 85° and about 50°, preferably between about 80° and about 60°, and

still more preferably about 70°. Connector 120 is on the side of generally vertical member 176 opposite of said base. Image support 103 therefore would be tilted to display an image slightly upward from vertical. Generally vertical member 176 may have a height H between about 2 inches and about 16 inches, preferably between about 4 inches and about 8 inches, and still more preferably about 6 inches. Base 174 may have a length L between about ½ inch and about 6 inches, preferably between about 1 inch and about 3 inches, and still more preferably about 2 inches. Length L of base 174 and height H of generally vertical member 176 may each vary in size for design or for stability.

[0084] Base 174 and crossbar 172 in FIGS. 14 and 15 are shown to be approximately equal in the distance that base separates the lower sections of the two generally vertical members 176 as crossbar 172 separates the upper sections of the two generally vertical members 176, however, these distances may differ to result in the upper sections being closer together than the lower sections or the lower sections being closer together than the upper sections. Further, base 174 may not be attached to each of multiple vertical members 176 present in a stand and multiple bases 174 may be present, in which case each vertical member 176 may be attached to each base 174. Stand 170 may be made of various or multiple materials, preferably mostly metal.

[0085] FIGS. 17-18, show another embodiment of a display structure. Display structure 200 is comprised of at least four members. The number and dimensions of members may vary, depending on the size of the image support to be mounted upon the display structure.

[0086] In one embodiment, shown in FIGS. 17-18, display structure 200 has two members 210 and 212 that are generally parallel to one another. Members 210 and 212 are generally the same size and shape, each having a generally U-shaped cross section.

[0087] Display structure 200 further has three members 214, 216 and 218 which are generally parallel to one another. Members 214, 216, 218 are generally the same size and shape. Members 214, 216, 218 are generally perpendicular to members 210, 212.

[0088] Members 214, 216, 218 have ends 230 that are connectable with members 210 and 212. The manner by which ends 230 connect with members 210, 212 may vary. For example, ends 230 may be connectable using a snap fit or a fastener such as a screw or bolt.

[0089] As shown in FIGS. 17-18, ends 230 are configured with grooves 232 which interface with a U-shaped trough 234 of members 210, 212. Ends 230 may slide into trough 234 and then be secured. The means for securing ends 230 within trough 234 may vary. As shown in FIGS. 18A and 18B, members 210, 212 have holes 240 which correspond to holes 242 in ends 230. A fastener (not shown) may be inserted into holes 240 and 242 to secure ends 230 in trough 234.

[0090] Members 210, 212, 214, 216, 218 have connectors 250 for attaching an image support. Connectors 250 are preferably releasable so that an image support may easily be attached and removed. The number and location of connectors 250 may vary. Some examples of a releasable connector include magnetic attachment but could also include any other fastening technique such as hook and loop fabric (Velcro™), snap fits, suction cups, or pins with detent mechanisms. Connectors 250 may be fixedly attached to members 210, 212, 214, 216, 218 using any suitable means. As shown in FIGS. 17-18, connectors 250 are magnets.

[0091] Members 210, 212, 214, 216, 218 may be comprised of any suitable material. Preferably, members 210, 212, 214, 216, 218 are comprised of a material that may easily be formed or molded, e.g., plastic or aluminum. Members 210, 212, 214, 216, 218 may be manufactured using an extrusion process, which may be and reduce the expense of manufacturing members 210, 212, 214, 216, 218 of varying lengths as desired.

[0092] As shown in FIGS. 17-18, members 210, 212 are preferably between about 14 and about 18 inches long, and more preferably about 16 inches long. Members 210, 212 are between about 1/2 inch to about 1 1/2 inches thick, and more preferably about 1 inch thick. Members 214, 216, 218 are preferably between about 10 and about 14 inches long, and more preferably about 12 inches long. Members 210, 212, 214, 216, 218 preferably have a cross-section with dimensions that are between about 1/2 inch by 1/2 inch to about 1 1/2 inch by 1 1/2 inch, and more preferably about 1 inch by 1 inch. The shape and dimensions of the cross-sections of members 210, 212, 214, 216, 218 may vary as desired.

[0093] As shown in FIG. 19, different combinations and arrangements using members of varying number and dimensions may be used to form display structures of varying shapes and sizes, which is desirable because image supports may come in all shapes and sizes.

[0094] FIGS. 20-23 show a spacer 300 that may be affixed to an image support so that an image support may be attached to a display structure. For example, spacer 300 may interface with the connectors as discussed above and may releasably secure an image support to the display structure of FIGS. 1-13 and 17-19. The display structures may be adapted to include a locking mechanism which may prevent unauthorized removal of an image support from a rigid display structure.

[0095] As shown in FIGS. 20-24, spacer 300 is generally circular, though the size and shape of spacer 300 may vary. For example, the shape of spacer 300 could be rectangular, square, or hexagonal, or the dimensions of spacer 300 may be increased so that spacer 300 may support larger images.

[0096] Spacer 300 has a first surface 320, a second surface 322, a third surface 324, and a fourth surface 326, which are generally planar and ring-shaped. First surface 320, second surface 322, third surface 324, and fourth surface 326 are generally concentric and are generally spaced parallel to one another.

[0097] While the distance and positioning of surfaces 320, 322, 324, 326 may vary, the preferred distance between first surface 320 and third surface 324 is between about 1/10 and 1/5 inches, and more preferably about 1 inch. The preferred distance between second surface 322 and third surface 324 is between about 1/50 and about 1/25 inches, and more preferably about 1/30 inches. The preferred distance between third surface 324 and fourth surface 326 is between about 1/10 and 1/5 inches, and more preferably about 1/5 inches.

[0098] Spacer 300 has a first outer diameter D1 between first surface 320 and third surface 324, resulting in a first outer face 332. The dimensions of first outer diameter D1 may vary. Preferably, first outer diameter D1 is between about 3/4 and about 1 1/4 inches, and more preferably it is about 1 inch. First outer diameter D1 may increase or decrease between first surface 320 and third surface 324, so that first outer face 332 is tapered between first surface 320 and third surface 324.

[0099] Spacer 300 has a second outer diameter D2 between third surface 324 and fourth surface 326, resulting in a second outer face 342. The dimensions of second outer diameter D2

may vary. Preferably, second outer diameter D2 is between about 3/5 and about 1 inch, and more preferably it is about 4/5 inches. Second outer diameter D2 may increase or decrease between third surface 324 and fourth surface 326 so that second outer face 342 is tapered between third surface 324 and fourth surface 326.

[0100] Spacer 300 has a first inner diameter D3 between first surface 320 and second surface 322, resulting in a first inner face 352. The dimensions of first inner diameter D3 may vary. Preferably, first inner diameter D3 is between about 1/4 and about 3/4 inches, and more preferably it is about 1/2 inches. First inner diameter D3 may increase or decrease between first surface 320 and second surface 322 so that first inner face 352 is tapered between first surface 320 and second surface 322.

[0101] Spacer 300 has a second inner diameter D4 between third surface 324 and fourth surface 326, resulting in second inner face 362. The dimensions of second inner diameter D4 may vary, but second inner diameter D4 is preferably between about 1/5 and about 3/5 inches, and more preferably it is about 2/5 inches. Second inner diameter D4 may increase or decrease between third surface 324 and fourth surface 326 so that second inner face 362 is tapered between third surface 324 and fourth surface 326.

[0102] As shown in FIGS. 20-21 and 25-26, there is a cavity 370 between third surface 324 and fourth surface 326 formed by second surface 322 and second inner face 362 which may house a magnet 390. Ridges 372 along second inner face 362 may help to secure magnet within cavity 370. FIGS. 26-28 show a magnet being housed by spacer 300.

[0103] Spacer 300 may be affixed to an image support, which may further secure a magnet with cavity 370. Spacer 300 may be attached to an image support by suitable means. For example, fourth surface 326 of spacer 300 may be chemically bonded to an image support. Spacer 300 may interface with a connector of display structures shown in FIGS. 1-13 and 17-19 to releasably attach an image support to the display structure.

[0104] FIGS. 29-32 show an image support 400 with spacers 410 attached to a rear face 420 of image support 400. FIG. 28 shows a spacer housing a magnet 430. FIG. 32 shows arrangements of spacers with various sizes of image supports.

[0105] Additionally, spacer 300 may serve as a support for mounting image support without a display structure. For example, wire or string may be secured to spacer 300 so that the image support may be hung from a wall or other desired surface.

[0106] Spacer 300 may have a hole through the center that is preferably circular in shape, though the shape of hole may vary. While the diameter of the hole may vary, it must be less than second inner diameter 360 in order to house a magnet. If desired, the hole may be eliminated by filling it with material.

[0107] Spacer 300, when affixed to an image support, may provide shear support when it is attached to a display structure that is mounted on a generally vertical surface. For example, the connector of a display structure may abut said second surface 322 so that said first inner face 352 may surround said connector, which may provide additional support should said image support experience a shear force.

[0108] Spacer 300 may be comprised of any suitable material. Light weight materials such as acrylic or other plastics may be desirable.

[0109] The use of spacer 300 when mounting an image support upon a display structure, which may be mounted on a

wall, for example, may result in spacing between the image support and the display structure. Such spacing may create a desired “float” effect, i.e., an image support mounted on display structure may have the aesthetically pleasing appearance that it is detached from the wall.

[0110] While the foregoing written description of the invention enables one of ordinary skill to make and use what is considered presently to be the best mode thereof, those of ordinary skill will understand and appreciate the existence of variations, combinations, and equivalents of the specific exemplary embodiment and method herein.

[0111] The invention should therefore not be limited by the above described embodiment and method, but by all embodiments and methods within the scope and spirit of the invention as claimed.

What is claimed is:

1. A display structure comprising,
 - a generally planar body;
 - at least one generally planar mounting surface, wherein said mounting surface is spaced generally parallel to said body, creating an offset between said body and said mounting surface;
 - at least one arm connecting said mounting surface to said body; and
 - at least one connector attached to said mounting surface.
2. The display structure of claim 1 wherein said connector is a magnet.
3. A display structure comprising,
 - a generally planar body, wherein said body is generally H-shaped;
 - four generally planar mounting surfaces,
 - wherein said mounting surfaces are generally in the same plane,
 - wherein said mounting surfaces and are spaced generally parallel to said body,
 - creating an offset between said body and said mounting surface;
 - four arms connecting said mounting surfaces to said body; and
 - four connectors, wherein a connector is attached to each of said mounting surfaces.
4. The display structure of claim 3 wherein said body has an opening.
5. The display structure of claim 4 wherein said opening is diamond-shaped.
6. The display structure of claim 3 said connectors are magnets.
7. A display assembly comprising:
 - a display structure, wherein said display structure comprises,
 - a generally planar body, wherein said body has a mounting surface,
 - two generally planar sides, wherein said sides are generally parallel to one another and are attached to said body, said sides being generally perpendicular to said body,
 - two slots between said body and said sides, and
 - at least one connector attached to said mounting surface;
 - a generally planar stand, wherein said stand comprises,
 - a first section having a first slot and a first bendable end, wherein said first bendable end is bendable along said first slot,

- a second section having a second slot and a second bendable end, where said second bendable end is bendable along said second slot;

- wherein said first section of said stand is inserted into said slots of said display structure.

8. The display assembly of claim 7 wherein said first bendable end of said stand is bent so as to secure said display structure upon said stand, and wherein said second bendable end of said stand is bent so as to support said display assembly.

9. The display assembly of claim 7 wherein said connector is a magnet.

10. The display assembly of claim 8 wherein an image support is attached to said display assembly, said image support being displayed at an angle of about 80° from horizontal.

11. A display structure comprising:

- at least four members,

- wherein a first and second member are spaced generally parallel to one another,

- wherein a third and fourth member are spaced generally parallel to one another,

- wherein said first and second members are generally perpendicular to said third and fourth members,

- wherein said third and fourth members have ends that are connectable to said first and second members,

- wherein said members combine to form a mounting surface; and

- at least one connector attached to said mounting surface.

12. The display structure of claim 11 wherein said first and second members have a generally U-shaped cross-section.

13. The display structure of claim 12 wherein said ends of said third and fourth members are contoured so as to closely fit within said U-shaped cross-section of said first and second members.

14. The display structure of claim 13, wherein a fastener connects each of said ends of said third and fourth members to said first and second members.

15. A spacer comprising:

- a first surface, a second surface, a third surface and a fourth surface,

- wherein said surfaces are generally planar and are spaced generally parallel to one another,

- wherein said first and second surfaces are forward facing surfaces and said third and fourth surfaces are rearward facing surfaces, and

- wherein said surfaces are generally aligned along a central axis;

- a first outer face between said first surface and said third surface;

- a second outer face between said third surface and said fourth surface;

- a first inner face between said first surface and said second surface;

- a second inner face between said third surface and said fourth surface;

- wherein said first outer face has a perimeter that is greater than the perimeter of said second outer face;

- wherein said first inner face has a perimeter that is less than the perimeter of said first outer face and less than the perimeter of said second outer face;

- where said second inner face has a perimeter that is less than the perimeter of said first inner face, less than the perimeter of said first outer face and less than the perimeter of said second outer face.

16. The spacer of claim **15**, wherein said surfaces are generally circular.

17. The spacer of claim **16** wherein there is a hole between said second surface and said third surface, said perimeter of said hole being less than the perimeter of said second inner surface, said hole being aligned along said central axis.

18. The spacer of claim **16** wherein said second inner surface forms a cavity that houses a connector.

19. The spacer of claim **18** wherein said spacer is comprised of acrylic.

20. The spacer of claim **19** wherein said connector is a magnet.

21. The spacer of claim **20** wherein said fourth surface of said spacer is affixed to an image support.

22. A stand comprising,
a generally horizontal base;
at least one generally vertical member attached to said generally horizontal base;
said generally vertical member having a lower section and an upper section; and
said upper section having a recessed surface with at least one connector.

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